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Date: 8-24-92

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REMARKS

Please include this pleading into MM Dkt. No. 87-268 AS "Memo from Merrill Weiss, ISWP2 to Birney Dayton, SSWP1 dated Aug. 4, 1992."

Thank you

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MM DKT. 87-268

ORIGINAL FILE

FCC Advisory Committee on Advanced Television Service
Implementation Subcommittee Working Party 2 on Transition Scenarios

To: Birney Dayton - SS/WP-1

From: Merrill Weiss

Date: August 4, 1992

Re: Analysis of Distributed Transmission Concept

As we discussed on the telephone, IS/WP-2 has begun looking into the concept of distributed transmission (sometimes called a cellular approach) for Advanced Television. The investigation began as a direct result of the inclusion of this concept in the system submission on the Channel Compatible DigiCipher system.

As we both know, the concept of multiple-transmitter operation for broadcasters has been informally discussed both within and outside the Advisory Committee for some time. Given that it has been raised by a proponent, now is a good time to examine it sufficiently to decide whether it is a workable technique that should be recommended to the FCC or whether it is a nice concept that is impractical for implementation.

IS/WP-2 has held several discussions of the implementation of a distributed transmission approach and has recognized that it could be a good solution in a small number of cases where it might avoid other constraints that a broadcaster would otherwise face. Thus it might help some broadcasters get on the air who otherwise would not.

As a result of IS/WP-2's discussions, it was decided to seek a technical analysis of the system configuration that would be required to implement a distributed transmission system and of any limitations receiver designs, in particular, might place on the transmission system design. Thus I am writing to you to request that SS/WP-1 undertake such a study and report its findings back to IS/WP-2. It is expected that the SS/WP-1 work could be accomplished through the mechanism of a conference call of Bob Keeler's Analysis Task Force.

There are two forms of multiple transmitter operation that should be examined. First is the case with a small number of transmitters (perhaps 7 or 8) widely dispersed so that they fully cover a normal station's coverage area. This approach has one transmitter in the center and one ring of transmitters around it. From an operational point of view, this is the only arrangement that appears workable to the broadcasters who have looked at the concept.

The second form is the use of additional transmitters to cover relatively small areas. These might be used to fill in gaps in coverage caused by particular terrain or environmental conditions. These are the kinds of situations in which translators are used for NTSC today.

For each form of operation, IS/WP-2 requests a determination of the characteristics and configurations of the transmission systems that will be required. Thus, for example, regarding the first type there would be a number of transmitters specified, with effective radiated powers, antenna heights, special timing requirements, and other items determined. Any particular receiver characteristics needed to work with such a transmitter configuration should also be ascertained. Then, the proposed systems should be measured against the required receiver characteristics to see whether those characteristics can be relatively easily accommodated. A similar analysis should be conducted with respect the second distributed system approach.

I hope this is sufficient information for undertaking the examination we request. Since I participate in Bob Keeler's task force, I will be happy to elaborate for the members of the group. This will avoid the need to define the problem in too much detail in writing, thereby possibly stifling innovative thinking in the task force.

Thank you for your support in this investigation. Your Working Party was established with the resources and the assignment to deal with exactly these sorts of issues. IS/WP-2 is being very careful not to overstep its bounds and wishes to draw upon the very great expertise you have within your membership.